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## SOILS, TEMPERATURE, GERMINATION.

Our Experiment Station has been prompt in its attempts to show the digestibility of various articles of food given to animals; some few add at the end of their bulletins and circulars, as well as their annual reports, a synopsis of the temperature and rainfall as a sort of afterpiece that few will ever notice and fewer still study and apply.

Soils differ materially in their capacity to receive and retain moisture and heat. Some of this difference is inherent in the soils, especially their mechanical structure; some, on the facts whether they are properly drained or not, and most, on whether radiation and evaporation go on rapidly or the converse. Soils radiate heat; they evaporate moisture. Wet land is cold, the water in it imbibing the heat and locking it up as "latent," rendering the soil cold, and even abstracting the little held by its particles on account of its greater affinity for itself.

Were soil thermometers cheaper, their purposes better understood, there would be less talk of defective seeds.

There is a dry and a wet rot of these equally dependent on the condition of the soil. If the latter is too dry, it withdraws all the moisture of the seed that is essential to vegetation, and it fails "to sprout." On the other hand, the wet penetrates the seed, prevents the access of heat and prematurely stops germination, so that the plant rots. Hence, we hear a man say, "My land is too wet or too dry to plant."

Water boils at 212° Fahrenheit, if the barometric pressure is right, and the amount of fuel necessary to make it differs with it. We have known corn in the same land, but under different temperature, to vary not less than twenty-five days in "coming up."

Again, experience teaches unequivocally that all seeds have a fixed time for germination, and that upon this depends their future growth and productiveness.

We now have tables of the time required by different seeds to germinate, but none of the best temperature to produce a healthy one. More tables are seen of where seeds cease to germinate than the time when they do. We need those that shall comprise all three, and that in a permanent, accessible form. A. C.

## ARE FARMERS PRACTICAL?

The Experiment Stations are fast teaching one most unpalatable truth, that farmers are very far from being practical men in the best sense of the term. They are prompt to try almost any variety of plant, vegetable or breed that is highly recommended, but in too many instances fail to notice the section that produces it. The Herefords and Short Horns suit grass lands; the Devons, where work oxen are needed; the Jerseys, Guernseys and the milk breeds, where there is a demand for dairy products, and where provender can be bought easily and grass is comparatively scarce.

A variety of corn drilled (out West, where manures and fertilizers are no good) at twelve inches apart makes a large yield; it is taken to the run-down lands of the East, and expected under these conditions to give an approximate yield. The same may be said of other vegetables, roots and plants.

A man wishes to start machinery of some kind at a given place. Before ordering he visits the place, inquires into the fuel cost, the water supply, the distance from a repair shop, and then seeks to adapt the machinery to these conditions.

A tomato runs out in about seven years, and yet a man expects that it will yield the same for him year after year, for he manures and cultivates it alike, the years being similar. Another plants the same potato in Louisiana, five or six years in succession, unmindful that there it runs out in three years.

A man outside of the "drift region," outside of its peculiar climate and rainfall, seeks to grow as many bushels of wheat per acre, and is surprised that he fails. He claims that it is the variety, and not the soil and climate, that is to blame.

Northern corn is carried South to make an early crop. It fails, because the longer season changes its character.

We want more inquiry, more study of soils and climate, before we choose a variety to plant. Let us apply to them the same measure of caution and experience that others apply to other pursuits, and see if more of profit does not follow. We use cultivators equally on light sands and stiff clays; we frequently cross-plow both and give them the same depth of cultivation, and the same number of times, regardless of their difference of texture and needs. Can we consider, then, ourselves as at all practical? E.

## TEMPERATURE.

Now that Maryland, especially the Eastern Shore, and Delaware, are fast becoming trucking and fruit-growing, rather than grain-growing States, it becomes a matter of direct importance to know what temperature may be expected at any given point for any given month. The annual mean is far from affording a correct basis, since the range may be very great between the 2 or 3 P. M. heat and that of 7 A. M., especially in late fall and early spring seasons, that relate to the ripening or starting of various crops. Recent observation proves, too, that there is a direct connection between the dew point and rainfall, a thing not hitherto noticed. Now, however, it is known that a fall of 10° or 12° in the dew point generally precedes a rain, a matter of so small interest to the trucker and shipper, as it will enable him, by picking, to save much of his fruit from rotting on the vines, or being on the market when the weather is rainy. All cannot be on lines of railroad, cannot enjoy the daily mails, cannot use the telegraph, yet most of them can secure a wet and dry bulb thermometer, and with little trouble take advantage of favorable indications to save and ship their crops. As a rule, they are more concerned with cold nights than hot days, as on the former hang the frosts so destructive to early fruits and vegetables. Take Baltimore as an illustration. There the highest 7 A. M. temperature in the ten years from 1880 to 1890, for November, was 69° in '89, and 63° for March, in 1880. The lowest, November, 17° in 1880, and March, in 1885, 13°. The mean, however, of the former, was 50° in ten years, and of the latter 21°. The man, then, who in choice of fruits and vegetables to plant and raise, who adapted them the most closely to these temperatures would score more successes, meet with fewer disasters, than he who ignored them. Soils may be ameliorated, nay, almost changed, by cultivation and manures; we do little in attempting to change climates. The one may be accomplished by a single man; to do the latter, even slightly, takes a whole section to drain, to clear up, to change crops so that evaporation, the potent factor in all growths, may be hastened or retarded, not only in planting and gathering season, but in the growing one, and, in fact, for a year, and for a long series of them.

But not all fruits nor vegetables are alike in hardiness, i. e., standing

heat or cold, drought or wet. Even in corn, our toughest cereal, the difference is very great in the two varieties, yellow and white, to say nothing of that between those of the same color.

Our Western fruit-growers are trying Russian fruits upon the principle of climatological adaptation, and the *Signal Service*, in its latest volume, recommends the study of the fruits of France and Italy, whose climates resemble much of our own, as affording some reasonable expectations of finding some that might prove valuable here.

Health, it is well known, depends to a very large extent upon slight changes in temperature, and not upon those where the range is great, and there is no reason that the same does not equally apply to the vegetable kingdom.

Even in Maryland this range is considerable, being 50° at Galena and Jewell's, and only 35° and 36° at Mount St. Mary's and Washington, for the same month, May; but for the entire State and the year 1889, it is only 3°, it being 90° and 87°, respectively, for the highest and lowest. An inspection shows February to be our coldest month, the temperature ranging from 0° at Cumberland to 11° at Barron Creek Springs, and July our hottest, being 93° at Baltimore and 88° at Fort McHenry for 1889.

And although we cannot predict our rainfall with any degree of precision, as we can the temperature, yet an approximation may be had. To the solution of this problem the energies of the meteorologists of the Experiment Stations, where they have any, should be directed. They issue bulletins and circulars upon almost every conceivable subject of agricultural importance, but none on the most valuable of all, our climate and rainfall, and the relation of crops to them. Perhaps out of this more certainty might be given to an uncertain and ill-paid pursuit—truck and farming.

Florists and horticulturists have not been slow to learn that a certain degree of ripeness of stalk and wood is essential to a successful wintering and a good growth the next season for flowers and fruit. Prof. Russell in discussing the subject of cold waves between 1880 and 1890, has given some facts that are particularly valuable, and that need studying for their practical bearing on agriculture. Unfortunately we shall have to take Baltimore and Norfolk as representatives of the State, one not far enough North, the other too much to the South, yet from them something may be learned.

November lowest 7 A. M. temperature:

	Mean	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889
Baltimore.....	37°	17	27	28	25	28	33	26	25	20	32
Norfolk.....	32	20	28	32	30	30	37	30	32	24	32
DECEMBER.											
Baltimore.....	16	1	25	12	23	10	15	15	16	17	20
Norfolk.....	23	16	28	17	27	13	26	20	19	23	34
JANUARY.											
Baltimore.....	11	30	2	10	15	11	11	11	9	10	23
Norfolk.....	20	35	20	22	21	11	21	10	13	18	25
FEBRUARY.											
Baltimore.....	11	30	2	10	15	11	11	4	7	9	23
Norfolk.....	20	35	20	22	21	11	21	10	13	18	25
MARCH.											
Baltimore.....	21	34	28	28	18	10	13	15	21	11	20
Norfolk.....	27	39	31	34	27	26	21	23	28	19	33

These temperatures depend partly on rainfall, partly on wind direction, partly on amount of sunshine.

#### RAINFALL, 1890.

	Jan.	Feb.	Mar.	Nov.	Dec.
Baltimore.....	4.22	2.63	5.71	0.45	0.61
Norfolk.....	4.88	4.21	7.82	2.55	0.77

The first killing frost occurred at Baltimore November 6th and last April 2nd. At Norfolk, November 7th, March 12th.

And it may not be out of place to state, in the words of Prof. Russell, that the greatest falls are apt to occur when the temperature is high for the time of the year."

95 per cent of the greatest falls of temperature have occurred when they were nearest the greatest temperature that have occurred, and were followed by falls of 20° or more. Thus the greatest for Baltimore in ten years, for November at 7 A. M., have ranged from 53° to 69°, with a mean of 62°. December, of 40° to 61°, mean 50°. January, 41° to 59°, mean 50°. February, 41° to 64°, mean 53°. March 51° to 63°, mean 53.

Norfolk: November, 63° to 71°, mean, 66°. December, 51° to 67°, mean 60°. January, 56° to 62°, mean 60. February, 49° to 66°, mean 61°. March, 49° to 66°, mean 61°.

The prevailing wind at Baltimore for 1889 was N. E.; at Norfolk, S. W. Rainy days at Baltimore, 164, Norfolk, 156.

These temperature conditions are worth very close study, since they lead to important results. Studied with reference to frost limits they may lead to important and valuable results, enabling the farmer to escape by timely precautions impending danger or by change of time of planting and variety to make profitable what might else have been loss. A wise man, by change, turns defeat into victory. X.

#### THE SUPPLY OF NITROGEN.

As I never attempted to say a word about the "origin" of the soils of Wicomico, my old friend "X." is a little "off." He does not answer the question "how does corn get half its nitrogen from the air?" Now when I assert that all plants get a larger part of their bulk from the assimilation of carbon from the air, I can explain just how they do it and prove it by actual experiment. Now X. shirks the question by ask-

ing me to prove a negative. X says: "The proof that micro-organisms cause the roots of plants to assimilate nitrogen is *unsettled*, not proven." I never heard that any one ever claimed any such thing. Assimilation in plants is a process carried on by the leaves and green parts only.

That micro-organisms are the cause of nitric fermentation in the soil is as fully settled as the fact that they are the cause of alcoholic fermentation in saccharine solutions. The formation of nitrates necessarily follows the formation of nitric acid, and as these are very soluble, they are quickly absorbed by the roots of plants and taken up in the sap to make new combinations with the products of assimilation in the great laboratory of the plant, the leaves. "X." settles this matter in his quotation from what he calls the highest authority on this subject in this country, that there is "no evidence that the corn plant obtains a large amount of nitrogen from the air through its leaves or roots." Now I do not recognize the quotation nor its author, but I would add to it by saying there is no evidence that it gets *any* in that way by means of its leaves. There is no need of proving that it does not; I never try to prove a negative.

A word now as to the black soils of Wicomico. X. asks who ever heard of the success of clover as a hay crop on these lands? I would answer that when these gum lands are thoroughly drained and limed they will grow clover as well as any lands and yet it does not by any means follow that they are suited to wheat, though thorough under-drainage would to a large extent prevent the tendency of these lands to throw out clover and wheat in winter. I commend to X. the article of Dr. Caldwell. W. F. MASSEY.

Raleigh, N. C.

#### CRIMSON CLOVER.

About a year ago I sowed two bushels crimson clover seed on the last working of corn. I tried to follow the cultivator, sowing two rows at a time. My seed came three days after I started to cultivate the last time. I sowed a little and it began to rain on two days; I tried it again; at length I finished. After several rains the ground closed, so the last had a poor chance in a race for life. The first came up finely, so did the second and third sowings, but the last two or three I could see the seed. Then came a light shower, the seed swelled, then came a three weeks' drouth, and I only occasionally saw a sprig here and there, until early this spring it came out, a perfect swamp of clover, and caught up to the first. This grew finely all winter. About June 1st I tried to plow it under for a fertilizer, and only succeeded by using a rolling cutter and a man on the beam. After a deal of labor I got it turned under about eight inches and corn on it, which is looking good. Two out of the ten acres I could not plow until it got ripe. I pulled some for seed, six bushels in the head. At length we had a soaking rain and I plowed this all under, and hope to put it in late cabbage. Now which is going to be of the most benefit, the dry or that

in full bloom, or the dry ripe? So far, I think the dry will give the best returns.

Some years ago I owned a farm at Cold Harbor, Va., and in going from Richmond to Cold Harbor on the 3d of May, eight years ago, I saw for the first time this beautiful crimson clover. On inquiry, I was told it was German-crimson clover, brought from Germany. Strange to say, last year was the first that I tried it with the ten acres. After I had sown it you published a piece, I think, from the pen of Mr. J. W. Kerr, that if I had had it for a guide in my ten acres I could not have sown nearer his standard. I am of the opinion it is worth \$150 to \$200 to my ten acres. However, if it pans out as I hope, you will hear from me again.

I received three years since a small packet of tiny seed, and I was sowing a timothy meadow along the railroad. I sowed these few seeds, 10 feet by 30, and you would be surprised; when it came in bloom the passengers would say, "Oh, look at the large strawberries!"

G. T. RAUB.

Four-Mile Run, Va.

#### COST OF MARKETING THE POTATO CROP.

The cost of putting a barrel of Irish potatoes on the market is one that is just now receiving the attention of many of our people. We mean the cost of producing the marketing all told.

There is seed, preparing the land, cutting the seed, and planting the same, cost of fertilizer or manure or both, cultivating the crop, killing the bugs, digging, picking up and hauling to the N. Y. boat or R. R., cost of barrel, freight, and commission, also interest on land, and any other item of expense that may not be mentioned in the above list.

We believe the total cost of a barrel of potatoes from the time the seed is bought until the potatoes are sold in New York, will astonish 99 men out of every 100 potato growers. Our people differ very much here in their figures. We would like to hear from your readers through THE AMERICAN FARMER in regard to this matter.

As soon as we can get in some more returns from some of our best potato growers we shall be glad to send them along to you, but up to the present time we can find none who can raise and put on the New York market at a cost less than \$1.50. This you see is at the rate of nearly 50 cts. per bushel. The first half of our potato crop this year sold for prices ranging from \$4.50 to \$6.50 for good stock. The last half of the crop sold as low as from \$1.50 to \$2.50 per barrel. This gave us an average price of about \$3.75 per barrel, which was a good per cent. to make and a very satisfactory profit, one year with another.

We were very much surprised when we got down to the bottom facts and counted the cost of the potato. We hardly think there is enough of this "figuring the cost" in farming matters. The first thing a man does, who figures the cost of any crop, will be to make a strong resolution to grow larger and consequently better

crops. There is no other way for him "out of the wilderness."

It costs no more to plant, cultivate and dig 200 bushels of potatoes to the acre than it does to get 50 bushels. It may cost a little more to prepare the land, and a little more for manure or fertilizer; it will cost more for the greater number of barrels to ship the larger crop in; but it is only the larger and better crops that will pay.

We are through with our potato harvest. Our late shippers got low prices; but as a rule the crop paid well. We have one man who had 17,000 barrels. He runs a horse railroad right into the middle of his potato patch, and runs the potatoes quickly down to his wharf, about one mile away, and loads on to small craft lying in wait for them, and they are laid down in this harbor at about 7 and 8 cts. per barrel.

The grower above referred to lives (or rather we should say his farm is located) on the margin of the "Great Dismal Swamp" and the soil is of a black loamy character on clay subsoil. The fact is, if the "Great Dismal Swamp" could be cleaned up it would grow potatoes enough to feed the entire population of the United States for a period of 90 days. The 800 square miles covered by this swamp would turn off, at least calculation, more than 64,000 bushels, which would give every man, woman and child in the United States, one bushel and still leave a half million bushels extra for those who have an unusually large mouth for "praties."

Very respectfully,

A. JEFFERS,

Editor Cornucopia.

Norfolk, Va., July 24, 1891.

#### ROT AMONG LATE POTATOES.

The value of the potato crop is generally assured if the rot is kept away and not allowed to infest the field; but during moist summers this is not an easy task. As a rule, however, the potato rot does not do its greatest damage until mid-summer, and even late in the fall. The decaying season begins, in many instances, during the sultry weather of August, and continues from that time on through September. Everything considered, then, it is always well to plant early and harvest the crop before the height of the potato rot season is upon us. On the other hand, many potato-growers plant late to escape the potato beetles, and also for other reasons late planting is beneficial; but during a wet season late planting is fatal. The only true safeguard during very wet seasons is to get the seed in early and the harvesting over as soon as possible. In addition to early planting preventive measures may be taken to prevent the rot, and during the middle of the Summer these measures should be adopted. The Bordeaux mixture, and other compounds of copper are more or less effective. A good way is to mix the compound with water and London purple, and then spray the vines with it several times during the hot months. This will prevent the rot and kill the potato beetles at the same time. A few such sprayings early enough in the season will save the foliage in an ordinary

year, and give much better yield of tubers.

The present year is not likely to be a very wet one, from present indications, and the potatoes will be comparatively free from the rot, but this should not deter one from using the mixtures mentioned. A sudden change in the weather in the middle of the summer might make the whole crop nearly worthless. The fungus first attacks the leaves and afterwards the juicy stems and tubers. The foliage should therefore be kept in good condition until the wet season arrives, and after that the fungicide should be used plentifully. Low, damp places are more favorable to the growth of the rot than high, dry places, and in planting late crops this matter should be taken into consideration. The higher and dryer the ground the less likely will the vines be attacked by the rot.—*American Cultivator*.

#### THE AGRICULTURE OF THE SOUTH.

Within the past decade we have heard much of the "New South." Its rapid advance in manufactures, in mining, in the building of towns and cities, has been such as to attract universal attention. Of its agricultural growth and opportunities, less has been said, although there is now, and has been for some time past, a steady tread of migration toward that section.

The Northern or Eastern immigrant who goes to the South must not carry with him too great an idea of reforming the entire practice of agriculture which prevails there. There has been something of a tendency to sneer at the "slovenly methods" of the Southern farmer; to denounce him as a "one crop" man, and to say that his crop is always sold (to the factor) before it is grown. The test of methods is the money value obtained from the land, and the Southern farmer, year for year and acre for acre, obtains a greater value than the farmer of any other considerable section except the fruit grower of California. The assertion has been made to me, and I am not yet able to disprove it by figures, that the South produces more "per land, per hand, and per plow." There are two good reasons why the Southern farmer is a "one crop" man, as he has been in the past and yet is to a great extent. First, he can get more money "per land and per hand" from the cultivation of cotton than from any other crop. Second, negro labor, upon which he must depend almost exclusively, can be better controlled in the cotton field than anywhere else. It is a crop—and almost the only one—that the Southern negro likes to cultivate, and in which he can be depended on.

If the Southern farmer is constantly in debt to his merchant or factor for advances upon his crop, it is due first to the exigency in which he was placed at the close of the war, when, destitute of everything but the land, he was compelled to begin life anew, and second, to the fact that the crop is of greater value than the land, more readily convertible into cash, and hence more available for security than the land which the Northern farmer mortgages. But this condition is rapidly passing

away, and a few more cotton crops such as the crop of last year has been, and a little more dependence on his own resources in the matter of farm and plantation supplies, will see him a comparatively free man.

Reverting again to "methods" of Southern agriculture. Perhaps nowhere else in the United States can be seen so good an example of broad business policy, of exact methods, and of proper conservation of the soil, as among the great sugar plantations of Louisiana, and certainly nowhere else does the eye gain such overwhelming evidence of the bounty and richness of the earth as when it ranges over those seemingly endless fields of cane, green and dense beyond any other cultivated herbage in our land.

But not all the soil of the South is the rich alluvium of the Mississippi bottoms, nor will all cotton lands make a bale to the acre, nor all corn lands produce sixty bushels. Yet in every part of the South cheap lands are to be found which may be profitably devoted to some branch of agriculture. There is much good cotton land yet to be occupied, notably in that vast plain of Eastern Arkansas that stretches from the foot of the Ozark mountains to the Mississippi, and the origin of whose soil is so plainly shown by the fact that in all its length and breadth there can be found no single hillock and no particle of stone. This is uniformly rich soil, producing more cotton than any other except the Yazoo delta in Mississippi, and as good for corn as for cotton. About cotton there is to be said, that the world's consumption of the staple shows a tendency to increase more rapidly than the production of the staple; so there need be no fear of future overproduction.

Corn may be profitably grown almost anywhere in the South. Although the yield is not always equal to that of the North, a proportionately better price is obtainable. On lands that are at all adapted to corn, this crop will pay as well, with good cultivation, as any that can be grown there. But, because of the fact already alluded to, that negro labor cannot be depended on for its proper cultivation, the best results in corn growing will be obtained by the small farmer who cultivates it mainly himself, and who knows and profits by his knowledge of the value of the fodder.

Hay farming is a profitable industry in the South, because the cultivation of grasses is not yet general, and the rapidly growing demand promises good prices for a long time to come. Experimentation has resulted in the finding of grasses adapted to almost every section. Dairying, near centres of population, may be successfully followed in connection with grass farming, as the almost universal price of milk is forty cents per gallon the year round, and by reason of the short winters, and generally free range, the cost of keeping the stock is not so great as in the North. That is, provided the dairy farmer will grow his own feed. To purchase any large portion of it would prove a losing investment.

In the vicinity of the new towns that have sprung up so rapidly in the New South are opportunities for market gardening that do not seem

to have been well followed up. At various points gardening for the Northern markets is an extensive industry, while these good home markets are overlooked, and they are compelled to bring their supplies from a distance. Throughout the South the gardener has the advantage of a long season, and in the extreme South, as along the Gulf coast, he has two distinct seasons of planting and harvesting each year, and along this coast are opportunities similar to those in the vicinity of the new manufacturing towns; resorts, both for summer and winter, with their accompanying big hotels and consequent demand for liberal food supplies, are increasing very fast; at present many of these rely wholly upon distant city markets for vegetables and fruits, while thousands of acres of lands lie uncultivated about them.

For fruit and wine growing, the coast of the Mexican Gulf, from the mouth of the Rio Grande to the west coast of Florida, might soon rival California were the same enterprise devoted to its development that has made the Golden State so famous. In the single matter of fig growing the lands along the Mississippi sound would afford a competence for hundreds of small orchardists. As an article of commerce, the domestic fig is as yet comparatively unknown. Aside from the California crop, such as are produced are grown almost without any effort toward a definite definite industry, but the entire product is quickly sold at remunerative prices, and the market receives nothing like an adequate supply.

The South may well claim to be agriculturally great because of its cotton. But the production of a single staple is not the road to the best agricultural supremacy. Especially is this true when it is a staple that is not produced for the sustenance of the people. But the combination which now exists in the South of the production of such a staple on a vast scale, and the rapid building up of towns through the development of mines and manufactures, offers the basis and opportunity for the development of the most complete agriculture, and progress along this line is the one thing of which the New South now stands in greatest need.—*American Agriculturist*.

#### LOSS IN MANURES.

The Experiment Station of the Cornell University has made a series of investigations on the loss in the stable manures by exposure in open barnyards. In the experiments of 1890 horse manure was saved from day to day until a pile of two tons had been accumulated. This was done from April 18th to 25th. Cut wheat straw was used plentifully as bedding, the relative amount of straw and manure being 3,318 lbs. excrement and 681 lbs. straw.

Chemical analysis showed that one ton of this fresh manure contained nearly ten pounds of nitrogen, seven and one-half pounds of phosphoric acid and eighteen pounds of potash, making its value about \$2.80, if these constituents be valued at the same rate as in commercial fertilizers. The pile of manure thus made was put in a place exposed to the weather

and where the drainage was so good that all the water not absorbed by the manure ran through and off at once. It remained exposed from April 25th to September 23rd, at which time it was carefully scraped up, weighed and a sample taken for analysis.

It was found that the 4,000 had shrunk to 1,730 lbs. during the six months, and analysis showed that this 1,730 was less valuable, pound for pound, than the original lot of manure. It had not only lost by leaching, but by heating or "fire fanging" during periods of dry weather, and the value of the pile of 4,000 lbs. had shrunk from \$5.60 to \$2.12—a loss of sixty-two per cent. In summing up the results of this experiment, Director Roberts says: "It seems safe to say that under the ordinary conditions of piling and exposure, the loss of fertilizing materials during the course of the summer is not likely to be much below fifty per cent. of the original value of the manure."

Further experiments showed that the liquid manure from a cow is worth as much per day as the solid manure, and that the combined value of the two is nearly ten cents per day, if valued at the same rate as commercial fertilizers; that from a horse at seven cents, that from a sheep at one and one-half cent, and that from a hog at one-half cent for liberally fed, thrifty shoats of medium size. Director Roberts is careful to explain that these values will have to be modified to suit individual circumstances. What he means is that if farmers can afford to buy commercial fertilizers at current prices, then the manures of the farm are worth the prices given.—*Ohio Exp. Station Bulletin*.

#### LIVE STOCK.

##### FEEDING HOGS FOR LEAN MEAT.

It is cheaper to produce meat that contains a large proportion of lean with the fat than to fatten a hog to such a condition as to fit it only for the production of lard, and it is a fact that feeding for lean meat a greater weight of carcass is secured, and at no more expense than in producing an excess of fat. This is explained by reason of the fact that when an animal is given food containing the elements of growth of bone and muscle as well as of fat, the condition of the animal is sustained in a manner to permit more perfect digestion and assimilation, and a greater proportion for the support of the system of the nutritious elements that are required, and which are more evenly distributed through the body instead of the semi-diseased condition produced when corn is given as an exclusive diet. Hence the farmer who diminishes the ration of maize, allowing but a portion only, substituting therefore bran, middlings, milk and clover cut fine and scalded, will have his hogs larger, heavier, healthier and of better quality of flesh than from corn. While giving the advantages of a systematic

method of feeding for the best results in producing the heaviest pork, the fact that prime lard brings a price that makes it desirable on the part of the farmer to have his hogs fat, it must be admitted that it is a serious obstacle in the way when lean meat is advocated, but the lean is simply interspersed with the fat, and the greater increase from the variety of food does not diminish the supply of lard. The farmer will find that in those portions of the carcass from which the lard is produced, but little difference will be observed, and the hog will be much more valuable as a whole.—*Western Swine Herd.*

**LINSEED MEAL FOR SWINE.**—L. C. Nixon, in *Ohio Swine Journal*, says: "The value of linseed meal as a feed for swine is not as well known as it should be. Especially is it a desirable feed when the pigs cannot have access to grass and are kept in dry lots. Linseed meal mixed with other feed keeps the bowels in good condition, thereby promoting health and rendering disease less liable."

Boussingault, the distinguished French agricultural chemist, estimates the nutriment of 100 pounds of linseed meal as equal to 300 pounds of oats, or to 318 pounds of corn, or to 767 pounds of wheat bran. If such be the case it is the cheapest food we can use now at the present price of feed—linseed meal being worth now from \$20 to \$21 per ton.

I have fed a great deal of it at \$30 per ton and upwards, when other feed was not worth much more than half what it is now, and considered that it paid well. It should be mixed with other feed and may be fed dry, but best results are obtained by mixing with water and allowing to stand twelve hours. In beginning the use of this feed commence very light and increase gradually, not feeding so much as to cause scouring. It is an excellent feed for sows a week or two before farrowing, but should not be fed too strong during the whole period of gestation, as some claim it will produce abortion. But I have never experienced any bad results from it and believe that if judiciously fed there is no danger."

**SHEEP** require a dry soil. Most of the diseases to which they are liable may be traced to a damp soil, which is likely to produce injury as well as disease. The prevalence of the liver rot, or fluke which has so infested flocks the last few years, has been indirectly due to damp. The feet of sheep will also suffer from foot rot if not kept dry and clean. The most frequent misfortune to which ewes are liable, and yet by care easily obviated, is abortion. Of the many causes which produce this, none is more general than the too rapid change of the ewes from a poor to a rich diet. Sheep are most sensitive to change of diet, especially ewes in lamb, and if the latter are unable to digest and properly assimilate their food it causes inflammation of the bowels, and predisposes to abortion.

## THE DAIRY.

### A NEW YORK BUTTER SCHOOL.

The first of the four dairy schools held this season by the State Dairymen's Association's instructors took place at Cuba, Allegany county. When the sessions began there were present, on behalf of the association, Col. F. D. Curtis, W. H. Gilbert and George A. Smith, of the State Dairy Commission. Analyses of milk were made by Mr. Smith during the sessions, from several herds and a large number of cows, the Babcock tester being used. Results were highly satisfactory. Mr. Gilbert also churned butter from milk set in the building where the school was held, and furnished the product in presence of the school to illustrate his method of doing such work. This also was very instructive, both to students and spectators. The class numbered forty-three, some of whom were young people, and the whole number attending averaged about sixty-five, a part of whom came a distance of several miles.

At the first session Col. Curtis, after a few preliminary remarks in which he outlined the work to be done, gave a lecture on "The Foundation of Dairying," which occupied an hour, and was devoted first to soils, second to plants and thirdly to animals—their characteristics and treatment.

In the afternoon Mr. Geo. A. Smith made a test of a sample of milk creamed in the Stoddard creamer, of which 160 pounds had been set, and the cream set to ripen, with the Babcock machine, for the purpose of ascertaining how nearly all the cream had been recovered in the creamer. Result—three-tenths of one per cent. of fat was found, about two-tenths too much. Longer creaming, and a higher or lower temperature, perhaps would have made up the difference desired. A number of questions were then read and discussed, after which those of the class whom Mr. Curtis had selected, read their notes on the morning's lecture, which were corrected and commented upon by the instructors, who pronounced them very meritorious.

Col. Curtis next lectured on "Foods." He said:

"Good and proper foods cannot be raised except there is fertility in the soil. Hence the necessity of restoring lost fertility and keeping the soil well supplied with it. Good, fresh-growing pasture, if the grasses are of the right sorts, especially clover and some others, is best for a dairy cow or a young animal. Feed for a purpose, first knowing what that purpose is, and keeping it constantly in view. Compensation is a just and fixed law and also one that is inevitable. If we feed the cow an abundance of proper foods—all she will digest and assimilate—give her pure water, warm, healthy quarters and kind care, she will, if she is a good cow, compensate us with a good flow of rich milk; if we starve and ill-treat her, she will compensate us by half filling a pail with thin milk. If she is a beef animal instead of a butter one, she will compensate by returning a supply of beef, etc." He then explained the difference in the chemical composition of foods and their effect upon the animal to which they are

fed. A man can have a certain amount of feeding value in a food or can leave it all out; it is not the fault of the food, but of the man who grew or prepared it. There may be value in corn fodder, or there may be none at all. It is left for you to decide. If you decide you do not want any value in it, and are willing to work for nothing, sow it very thickly. It will then contain 90 per cent. or more of water and will be practically worthless—not worth as much to feed as would have been the seed it grew from. If you want value in it, plant it thinly, then cut it when the most advanced ears are glazing. It is then at its best. Another way to get no value is to plant it and allow it to stand until all the ears are ready to shell and grind and the stalks have become mere woody fibre.

The older the animal the higher should be the per cent. of carbonaceous matter in its food. Balance the ration according to the age, condition and growth of the animal and the purpose for which you are feeding it. The wheat kernel when fed whole and alone is the nearest to a perfectly balanced food of any of our grains, if we accept the ratio of 1 to 5, as the best, but the straw being highly carbonaceous, should be fed with it. If only the straw is fed to her, she will get little but carbon heat and the woody fibre. The farmer who feeds but one food is usually very wide of the mark. A cow fed only dry food must have a larger ration of water than one fed succulent foods.

The chemical constituents of the various foods employed by the dairymen were then explained through the aid of the analyses and charts, and their various offices stated.

When you know the constituents of perfect milk, you will know what food to feed the cow that gave it, and as those foods which produce the most and best milk also produce the best growth and most fertility, it will be seen they are the most profitable to feed. Corn ensilage, clover hay, some corn meal when there is but little corn in the ensilage, in connection with cottonseed meal, wheat bran, linseed meal and wheat middlings, are the best and most profitable for those purposes.—*Country Gentleman.*

### HOME CHEESE—HOW MADE.

We have never lost a cheese, though some makers predicted such a result because we use whole milk and make soft cheese—so soft it can be spread like butter. We made sixteen last season; sold one, gave one and pieces from others to friends. The press, of oak plank, a home-made affair, bought of the estate of the Dow family, was probably in use at the time Lorenzo Dow, the eccentric preacher, was fulfilling the command, "Go ye into all the world," etc. The press, with basket, two hoops and followers, cost 25 cents. Two yards of cheese cloth (8 cts.) and two thin muslin flour bags, washed and bleached, were used for strainers; the edges of all the strainers were nicely overcast—for hems will leave a mark on the cheese. We had five choice-grade Jerseys and Guernseys; but in July butter-making is not profitable; besides, we wanted cheese for home use. The rennet (25 cts.) was procured of our local butcher, cut into pieces

about an inch square and put into a quart glass can, was filled with salt water, and, except when open to dip therefrom, kept tightly closed. Each night, as soon as the milk was drawn, it was strained into a tin boiler, a small tablespoonful of the liquid from the rennet jar added immediately; after standing about forty minutes the curd was cut with a knife into squares about 1½ inches each way; twenty minutes later it was broken up by the hand; then, when the curd had sufficiently settled the whey first as much as possible, afterward the curd was dipped into the cloth strainer, fastened over the cheese basket and left to drain all night.

In the morning the milk was served in a similar way, save that less rennet was used, for the cows gave less milk in the morning. When the morning curd had drained sufficiently—usually about 11 o'clock—both the night's and the morning's curd were cut into dice containing about three-fourths of a cubic inch each, the whole immersed in a bath of the morning's whey heated no warmer than freshly drawn milk. After about five minutes the curd was drained through the strainer over the basket, salted to suit the taste, enclosed in a strainer (strainers are used all through the pressing process), put in the hoop, placed in the press with the full amount of pressure, where it remained one hour; then it was removed from the press, taken from the hoop, the strainer rinsed or a clean one used, put back into the hoop the other side up from what it was during the first pressure, great care taken to have the strainer smooth over the cheese, and pressure again applied; turn at evening and again in the morning. Prepare a third and fourth curd according to the directions for the first and second, remove the cheese from the press and cut the partly-pressed cheese into small dice and mix it thoroughly with the third and fourth curds. We have now four curds, sufficient to make a complete cheese, and so near alike that when the cheese is cured no one can tell where one curd began or another ended. Now place in the hoop, apply pressure, turn in one hour, at night and in the morning as before, until forty-eight hours have passed.

Remove from the press, grease the cheese all over with sweet melted butter, place on a square of white cloth on a board a little larger than the cheese. The rubbing with butter must be continued once each day, when the cheese is turned, which care must be continued for about eight weeks, when the cheese will be cured. Flies are attracted by cheese-making, and after a few days should a round hole or a crack be noticed when turning the cheese investigate the broken place; if skippers are found dig them out with a knife and fill up the breakage with good cheese mashed between the fingers, then sear the place with a hot iron or cover with note paper, after which use butter till the surface is covered. Eternal vigilance is the price of good cheese. Should a cheese show a tendency to spread, as nice cheese generally does soon after being taken from the press, it should be bandaged, greasing over the bandage each day.

Sometimes a cheese will leak after getting it on the board; mark that cheese and use it soon as ripened, for such cheese is apt to mould inside if kept long. Only two cheeses can be made a week if but one press is owned—that is, if made as we make cheese. In winter we put the cheese into a barrel, place the barrel in a dry closet where the cheese will not freeze, and by looking at them occasionally and rubbing whenever mould appears, they will keep nicely. As in all other uses to which milk is put, every utensil—press, basket, hoops, follower, dippers and knives and each cloth—must be kept scrupulously clean to produce best results. —*N. Y. Tribune.*

## THE POULTRY YARD.

### PICKED-UP POULTRY POINTS.

**FEEDING CORN.**—Corn should not be fed to fowls until the winter, as it is too rich in carbon for this season, and causes the hens to become over-fat. It is deficient in egg-producing elements, and when fed to fowls in winter it should be fed in connection with some other food as a variety.

**SAVE YOUR LAWN GRASS.**—Cut the lawn grass often and cure it like ordinary hay and store it in the barns for the use of the hens in winter. When wanted, pour boiling water over it in a tub at night, and feed it the next morning. By sprinkling a little bran and meal over it, the hens will relish it highly.

**TOP-KNOT FOWLS.**—The Polish and Houdans, which have crests, are among the best layers, but their heavy crests obstruct the sight and make them less liable to escape from hawks and other depredators. Breeders should aim to breed away all such useless appendages unless the breeds are intended for ornamental purposes only.

**INSECT POWDERS.**—The ordinary cheap insect powders are almost worthless as a destroyer of lice; unless fresh they lose virtue. In buying insect powder get the Dalmatian, and have none that is not put up in air-tight tin canisters. It is usually sold at about seventy-five cents per pound, and resembles Scotch snuff. It should be easily procured of any reliable druggist. It is better not to buy it at all unless you can get the best.

**PURIFYING A POULTRY YARD.**—If you can remove your hens from the yard for a short time, spade it up, scatter lime over the surface and sow Hungarian grass seed, using plenty of seed. It will grow rapidly, and when six inches high, turn the hens back into the yard. Hungarian grass will send its roots into every square inch of the soil, will appropriate all the manure and filth in the yard, and will continue to grow until frost, and if the fowls do not trample it too much, it will provide a proportion of green food for quite a while. Late in the fall dig up the yard again, sprinkle more lime, and it will be in excellent condition for winter.

**MANAGEMENT.**—There are two little matters affecting the economy of poultry-keeping that should be remembered, experience having proved

the advice to be perfectly correct. Sick fowls are not worth doctoring; by immediate killing the loss will be less than under any other conditions. Old hens are not worth keeping a day after they have commenced to moult, for this reason—they fail to make any return from four to six months, during which they have to be fed, and they do not lay a sufficient number of eggs to pay the food bill. The principal conditions of success are—

1. A large, hardy, active, meaty, good-laying lot of fowls.

2. Sufficient food given in accordance with common sense; as little as possible (and never more than half) being purchased.

3. A warm, dry hen-house, free from draughts and kept thoroughly clean.

4. Early hatching, coupled in corn-growing districts with hatching for harvest.

5. Regular sale of cockerel chickens at the earliest possible moment, of old hens when they have ceased their summer laying, and of surplus pullets in autumn when there is a demand.

Young hens are essential, as they alone lay well; old hens frequently failing to lay eggs enough to pay for their keep. If the chickens are early hatched, they come in when there is a demand for table poultry in May and June, when prices are comparatively high. The pullets commence to lay in the autumn, whereas late-hatched pullets never lay until very late in the year, and frequently not until the following spring. More adult fowls should never be kept than can be fed under the conditions we have laid down—i. e., chiefly upon home-produced food. The whole of the birds should be carefully managed, and especial attention is required in early spring when chickens feel the cold, in the severe weather of winter, and at all seasons when wet and wind are prevalent, many deaths occurring from these causes where protection is insufficient. Chickens also need protection against rats and other vermin, which, as a rule, claim their share of the hatches.

## HORTICULTURE.

### EASTERN SHORE APPLES.

The almost absolute destitution of apples on this peninsula in 1890 is now being liberally compensated for by the abundance of as fine fruit as any one could wish for. The "outing" given the trees by the caprices of the weather in spring of '90 apparently recuperated their producing powers to such an extent as to defy serious injury by insect enemies, the different varieties seemingly vying with each other for supremacy in merit. Yellow Transparent set too much fruit to insure good size without severe thriving, but where this attention was bestowed perfect and beautiful apples of good size resulted. When fully ripe the quality is fair, though when at this stage it belongs to the *tender* class, and will not bear rough or careless handling. Because

of the prevailing ignorance as to what constitutes real merit in a fruit, this variety will likely prove less profitable to growers than it should, as its color is *not red*. Charlotten Thaler and Grand Sultan are both *very* much like the Transparent every way; perhaps the last named is a trifle larger, but in color, season and quality they are identical. If you have one of these kinds, practically you have all of them. The hair-splitting differences discussed by Western propagators, as to hardiness and longevity of trees, are of no importance to residents of a *civilized* climate. No fruit tree can long survive the annual production of immense crops of fruit, without special provisions as to culture and manures. Where the fruit buds of the peach tree live through the recurring winters unharmed, as a rule, it is folly to quibble about the hardiness of an apple tree, so far as the question of hardiness refers to the power of the tree to resist injury from cold.

Early Colton, an apple of American origin, is a fruit that averages larger than the above, of stronger color, being an *unadulterated* yellow, better quality, but not quite as early—tree somewhat spreading, inclining to straggling—a good *yellow* variety, for either home use or market, one that should generally supersede the Early Harvest. For a first-class yellow summer apple, though, there is no variety that I am yet familiar with that combines as many good points in its "make-up" as the Early Ripe. A fine, vigorous, upright growing tree, forming a symmetrical head, and in good soil attains large size, producing fruit in abundance, uniformly smooth and of a texture sufficiently firm to give it value as a shipping apple. Without a superior as a cooking apple—fine for eating out of hand—evaporates clean and white without the aid of bleaching, as early in season as the Early Harvest, after the trees attain some age, is a fair description of this apple as it behaves here.

Among the red or striped summer varieties, the Red Astrachan, when suited in soil and well cared for, is unquestionably the most profitable market kind; but it does not succeed on all soils, and it would, indeed, be a depraved taste that would give it preference for "eating out of hand." The Fourth of July, while it is not so brilliant in its coloring, is far less fastidious in its choice of soils, requiring no longer time to come into profitable bearing, and far less inclined to knotty and gnarly fruit production; equally as large, not so intolerably acid, with a tree that is equally as handsome; all in all, a safer and surer profitable variety than the Astrachan for general planting. Carolina Red June has the color, but lacks the size, and not until the prevailing universal preference for "big fruits" of all kinds is superseded by a recognition of quality will it be popular as a market apple.

Gorden's Cluster, a New Jersey apple, is nearly as bright-colored as the Red June, fully as large, and possessed of a juicy sprightliness and high flavor, equal to Summer Pearmain, ripens fully as easy as Red June, and is wonderfully productive.

To be continued later.

J. W. KERR.

Denton, Md., July 21, 1891.

## THE FRUIT LIST AGAIN.

In the May 1st issue of the *THE AMERICAN FARMER* were two articles which referred to a list of fruits I recommended in the April 15th issue. I was in the first place much pleased to find those who were alive to the question of selection of varieties and who came out and expressed an opinion which, I trust, will be the result in presenting this answer to your readers. The best way to get ideas and knowledge in any line of work is to communicate your opinions on that line of work to an educative paper such as *THE FARMER*, and expect comments upon those opinions from others. Not having seen an apple ripen in this State, my list was based wholly upon all I could obtain from several experienced growers. Hence, if I have made any recommendations that are not compatible with experience, it is due to my being misinformed.

However, I have been able of late to observe some orchards for myself, and can speak more from observation than hearsay. It must be fully understood that my list was not for commercial purposes, but for *family* purposes alone. It makes a vast difference in selecting varieties as to what purpose they are intended to be used. For family uses, there should be a succession of fruit, and while it is true that the winter should be well provided for, yet it is a mistake to grow too few summer and fall varieties. I believe it may make a better list if the Red Astrachan, which is rather poor in flavor, be replaced with a winter variety, as suggested by one of the writers. But Sweet Bough should be in the list for most families, if but a single tree, as recommended for sweet pickles and other purposes. Summer Rose might be best replaced with the Lady apple for winter, but six winter trees should be enough to risk to keep over winter in this climate. Most early varieties grow and develop well in this State, but many of the winter varieties that keep well in more Northern States often fail in this climate either to mature properly or to keep. It would be advisable to reverse the list, as suggested by one of the writers, if the keeping qualities of the winter varieties were obtained in this climate.

Now, for *market*, I would not advise planting more than two or three varieties, and two of them should be Wine Sap and York Imperal. The Smith's Cider is reported from some sections as being a reliable market apple, but is not so universally praised as the first two named.

As to the pear list being "more off," I do not agree. A family desires the fruit all through the fruit-eating season. We naturally crave more fruit during the heated part of the year, and then is the time pears are wanted. For family use we want the best flavored, hence the three small ones were selected. Every one knows the luscious quality of a Seckel, and many should know the little sweet Dearborn's Seedling. It is a very fine melting, luscious, sweet, early pear, and one tree of it and the excellent Early Wilder will, when once tested, always be a welcome fruit upon the family table. The Idaho, in the opinion of the best judges of the country, is one of the finest pears yet introduced, and, I

believe, destined to supplant the Bartlett. It is a melting, rich-flavored, rather large fruit of a fine yellow color. The tree is rather on the Japanese type, with large glossy, rich foliage. I have tested both tree and fruit, and do not hesitate in recommending it on the scale of one tree for family use. While the Bartlett is one of the best pears for quality, it is one of the shy, irregular bearers, and is more subject to blight than any of the standard varieties.

No one would certainly select the Kieffer for family use, on account of its very poor quality and difficulty in getting it to ripen up, unless desired for preserves, for which it is excellent. It makes a fine tree, and is as valuable for an ornamental tree as for fruit. For market, it seems to do quite well. Many will buy it from its large size and fine color.

The Anjou is a good pear, so are many others, but the list for family purposes should be limited, and of course many good varieties must be left out. It is a question of seasonable fruit of the best quality for family purposes. For market, I find that the Howell, Duchess, Lawrence and Bartlett are planted more than any other varieties. Mr. R. S. Emory, of Chestertown, who has 20,000 pear trees, uses these four for his main varieties, and says the Bartlett is not as reliable as the first three. At Still Pond the Howell is claimed by Dr. Maxwell to be his best and surest bearer, and most valuable market pear. Near Baltimore they prefer the Lawrence for the Baltimore market. Yes, the Summer Doyenne and the Doyenne d'Ete are the same pear. Either the printer or I made a mistake in putting in Summer for White. The White Doyenne is a most excellent fall pear, and is highly prized in the Philadelphia market. It is universally popular, as is shown by its having thirty-four synonymous names.

The Buffum is a very heavy bearer, and of excellent quality. It is not but medium size, and not very handsome, but its quality and abundance is what is wanted for family purposes. I would not recommend it for market, as even such poor varieties as Kieffer and LeConte outsell it on account of their greater attractiveness.

Downing says, "The Winter Nelis holds, in our estimation, nearly the same rank among winter pears that the Seckel does among the autumnal varieties." It is a thrifty tree and bears regular crops. The fruit is rich, buttery and abounds with juice of a fine, aromatic flavor.

I admit that there are many other splendid pears that would make a fine family list, but those in the list recommended are certainly among the best.

As to the peaches, it was said that at least four of my list had been discarded. That is very true for market purposes, but for family use the early varieties will always find a fitting place in a well-selected orchard. And I am not sure just what four have been discarded. The Amsden and Troth are far less planted than they were. But all the rest of the list are found to be the leading varieties grown in the different parts of the State. In Kent and Queen Anne's counties the Mountain Rose is grown mostly for early, Reeves' Favorite is considerably grown, but a little shy,

and the main dependence is on Early and Late Crawford. In Western Maryland, in Washington and Frederick counties, they depend mostly on Salway, but also plant Reeves' Favorite, Smock, Mountain Rose and Bilyeu's Late.

In Wicomico, Somerset and Worcester counties Reeves' Favorite is planted more than any other variety, also Smock, Chair's Choice, Stump and Early Rivers are planted to a considerable extent.

I was glad to bring out the fact that some of the varieties of grapes I had listed had been tried and found that they drop their leaves too early. What is wrong, the vine or the cultivator? Partly, both. It is true that the Delaware is rather weak in its growth and subject to Downy Mildew (*Peronospora Viticola*) and other diseases of the grape. The Catawba, Brighton, and, in fact, all mentioned in my list, are more or less subject to diseases. The Concord itself often mildews and rots badly. It was not supposed, in recommending the list of grapes, that they were to be grown without proper preventive measures taken to ward off diseases of the vine. No American grape is strictly exempt from disease. Out of 130 varieties I have had under my charge, only one (Hermann) was untouched with disease of any kind during the season of 1890. All those belonging to the Concord (*Labrusca*) family had one or more diseases. It is becoming a very common practice now-a-days to spray the vines from four to six times with a solution containing one of the salts of copper to prevent the fungous diseases that prey upon every American or European grape grown in open air and East of the Rocky Mountains. It is the only way to grow perfect crops and be sure of a crop every year.

The Champion is probably the earliest American grape. It has always fruited with me before Early Victor, but it is reported from some parts of the United States as fruiting later. It is no better in quality than the Early Victor, and the Early Victor would make a good substitute for it. But the Champion is a larger grape and will bear heavier crops, and, I believe, will ripen first of all, which is a very important item. It will be noticed that but two vines were considered enough, while four were considered enough of the Concord. I will say again that the list of grapes was for the family alone, and not for market. The red rust of the Blackberry affects every variety in our test grounds, but the Kittatinny usually suffers more than any other and hence was not included in my list.

The Lawton is yet one of the most reliable berries grown, because it is a good berry and late.

As to Strawberries: Since I have seen other varieties fruit this season to compare with May King and Bubach, I would prefer Van Deman or Michael's Early for an early variety and Gandy or Stayman's No. 1 for late. All of these varieties are perfect flowered, except Stayman's No. 1. It would be of value to the readers of THE AMERICAN FARMER to hear from others on the varieties that succeed best in their part of the State, and mention all new varieties that may have originated in their immediate locality. The question of best varieties for any given district is one

that depends largely on experiment. At some future time it would be a valuable piece of literature to the State to compile the experiences of growers, in all parts of the State, on the varieties they have tried. Let us hear from others. Sincerely,

THOMAS L. BRUNK.

College Park, Md.

#### STRAWBERRIES.

From the report of C. E. Hunn, acting horticulturist at New York State Experimental Station, Geneva, N. Y., we make the following condensed extracts in regard to strawberries: "I should recommend for a kitchen garden Bomba, and Haverland for early, Burt's Seedling and Daisy for medium, and Crawford and Middlefield for late. These planted in the order named will give each alternate row of pistillate varieties, insuring perfect pollination. Several of the older varieties will give good satisfaction, as Bidwell, Chas. Downing, Crescent, Cumberland, and on heavy soil none are better than the Sharpless."

He speaks of the Belmont as a "showy berry when fully ripe, firm and of fine flavor; with good culture it yields an average crop. Bubach a very promising, rank-growing, late variety, but quite soft." He pronounces the Haverland "too soft for a shipping berry," and praises the May King as "an acquisition to any home garden, ripens early, and continues through long season; medium large and firm, quality of the best, vigorous growth, free from rust."

Of new varieties not yet fairly tested several are very promising, notably Beeder Woods, Bessie and Michel's Early. In the reports and description of 100 varieties or more, most have some fault named, or are "damned with faint praise," not worthy of calling attention to. L. J. Farmer, Pulaski, N. Y., pronounces the Bubach a most valuable variety, very productive. Its immense size secures for it the highest price. "The Burt is the best berry we know for wet soils or rainy weather. The Cloud is one of the best shipping varieties. Daisy and Pearl, one a perfect the other imperfect flower, should go together. He also finds the Haverland too soft for shipping. The Eureka, a perfect flowering variety," for vigor of plant and beauty of fruit it is without a peer. Warfield No. 2 ripened more marketable fruits than any other on the grounds. Michel's Early promises to do very well, and so does Parker Earle.

MARKET GARDENING.—Before anyone could engage in market gardening with any prospect of making a fair living by it, he must learn by practical experience how to produce good vegetables in the cheapest way; and when he has learned this, he should study his available market and see what produce his market demands, and then try to grow just that produce, and to dispose of it to the best advantage. Skill, good judgment, perseverance and a great deal of experience, with hard work, are indispensable requisites of the business. The only way to success for a young man leads through an apprenticeship in the employ of a good and successful gardener near a large market.—*Farm and Fireside.*

#### FACTS ABOUT THE MOON.

Prof. C. A. Young recently gave an interesting lecture on the moon, in the astronomical course conducted under the auspices of the University Extension at Cooper Union. The moon, in the first place, has nothing whatever to do, the lecturer said, with the changes in our weather. He had known some farmers in the West who would never plant a "root crop" except on the wane of the moon, while a growing-up crop, like wheat or other grain, he would always insist on planting when the moon was waxing. These notions, as well as those held by some sea captains, that the wind would blow for a week from the quarter in which the change of the moon took place, were, he declared, without foundation.

The moon was an insignificant body in herself. It was her proximity to the earth that gave her astronomical importance. At the same time her position was unique among satellites. She was by far the largest in proportion to her planet of twenty or more satellites in the solar system, being 1-80th the weight of the earth, while no other satellite exceeded one 1-1000th of the weight of its planet.

In the peculiar motions taken by the moon there were certain elements which, the professor said, the law of gravitation might not fully account for. Astronomy would one day reach the limit of accurate precision, and would reach the field where such elements of uncertainty would creep in as the effect of the human will. Speaking with exactitude, for instance, a man could not build a tall building on the face of the earth without lengthening the day by the change in the position of matter involved. Such changes as this, when accumulated through long periods, must produce effects that would make the astronomical problem a very difficult one, in fact, an incomputable one, some day.

The heat that the moon sends had been measured, he said, and found to be 1-160,000 of that sent by the sun, while the light was 1-600,000 of the sun light. The "earth shine," if we could observe it from the surface of the moon, was fourteen times as brilliant as that we now saw from the moon, and from a surface that was about four times as large as the full moon exposed to us. This brilliant light was reflected back from the moon to us slightly, rendering just visible that part of the moon in the shadow at the time of the new moon.

"The moon," said the professor, "had no atmosphere to speak of. Its surface as shown by the slides was a mass of circular volcanic craters of peculiar formation, but rent by mysterious fissures which started from the crater of Tycho in all directions like the streaks on the skin of an apple. These fissures were about half a mile in width, and extended into the body of the moon nobody knows how far. They cut through craters and mountain chains in straight lines, and their explanation was not yet. Some had attributed them to the congelation of the central mass, like water frozen in a glass globe. Bits of the mountain scenery of the moon were thrown on the curtain and seemed very unattractive, though evidently grand in their very ugliness."

## The American Farmer.

"O FORTUNATUS NIMIUM ES. SI BONA MORINT  
AGRICOLAS." — — — — — Virg.

PUBLISHED ON THE 1ST AND 15TH OF  
EVERY MONTH,

By SAMUEL SANDS AND SON,

At the N. W. Corner Baltimore and North  
Streets,

(Sign of the Golden Plow.)

BALTIMORE, MD.

WM. B. SANDS, Editor and Publisher.

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At the office of THE AMERICAN FARMER are located the offices of the following organizations, each of which its proprietor, Wm. B. Sands, is Secretary:

Maryland State Immigration Society.  
Maryland State Farmers' Association.  
Maryland Horticultural Society.  
Maryland Dairymen's Association.  
Maryland State Grange, P. of H.

Entered at the Postoffice, Baltimore, Md., as Second-Class Matter.

BALTIMORE, AUGUST 1, 1891.

## DEATH OF SAMUEL SANDS.

The Senior Editor of THE AMERICAN FARMER died at Lake Roland, Md., July 28th, in the 92d year of his age, passing peacefully away as one whose work was done, suffering from no disease or pains, the wonderful mechanism, whose action is life, having run its course and become worn out after being prolonged long beyond the normal period.

SAMUEL SANDS was born in Annapolis, Md., April 10th, 1800. A few months in one of the rude schools of the period, and a year or two in the preparatory department of St. John's College made up his educational advantages. In 1811, his mother, lately widowed, removed to Baltimore, and, with a large family and restricted income, her first care was to find a place for the boy to make his own living. This, by chance, was found, two days later in the office of *The Whig*, a daily paper. From that time until his death, more than eighty years, his connection in some capacity with the press never ceased. With an inborn energy he soon mastered his trade, and having been transferred after two or three years to *The American*, he became at the early age of sixteen, foreman of the office, a year before he was free. It was during his service there in 1814 that he first put into type from the author's manuscript, Francis Scott Key's "Star-Spangled Banner," all the other employees having gone out to join in the defence of the city against the advancing British forces. Left behind on account of his youth, the poem was placed in his hands, and, as soon as printed, the young ap-

prentice distributed the inspiring song throughout the city.

About 1821 Mr. Sands began business on his own account as a printer. From that time he was constantly engaged in the publication of papers, of either a literary, agricultural, or political character, including the *Saturday Visitor*, *The Columbian*, *The Marylander*, *The Freeman's Banner*, *The American Whig*, *The Chronicle*, *The American Farmer*, *The Rural Register*, *The Real Estate Register*, and perhaps others. Of these, *The Chronicle* was a daily, which, in connection with Gen. Shepherd C. Leakin, under the firm of Leakin & Sands, was continued for many years, being a commercial, non-political paper, whilst at times both *The Marylander* and *The Whig* were published as dailies. Having in the course of his business as printer become connected with *The American Farmer*, he purchased it in 1834. He engaged as its editor Col. John S. Skinner, by whom it had been founded in 1819, it being the first agricultural paper published in America. Under their joint direction it reached a high degree of prosperity, which was long maintained. In 1858 Mr. Sands relinquished the paper to Mr. N. B. Worthington, who three years previously had bought a half interest in it. In 1872 it was repurchased from the successors of Mr. Worthington, and has been since conducted under the existing firm name.

Of Mr. Sands' services on behalf of agriculture, there is no time or space to speak. His ardent but practical advocacy of all movements to promote the material and intellectual advancement of the farming class, to better its condition and to introduce improved methods, labor-saving appliances and economical systems, is matter of record. His endeavors were wholly unselfish, the consideration of personal profit or advantage never being an element in his calculations. He was long secretary of the Maryland Farmers' Club, which broadened into the old Maryland State Agricultural Society, and occupied the same position in the latter organization during its entire existence. His part in the introduction and subsequent widespread use of Peruvian guano is shown in the pages of this journal, the immense trade in commercial fertilizers, of which Baltimore has always been the great centre, springing from this beginning.

He was a warm advocate of better technical education for farmers, and in and out of season the establishment of an agricultural college for Maryland was urged in THE FARMER, long before the general government undertook the granting of public lands for their support, our State college owing its establishment largely to the unremitting advocacy by THE FARMER of the efforts on its behalf of Charles B. Calvert, the McHenry's, Col. Earle, Walsh, and others of its promoters.

He was an unwavering friend of Obed Hussey in his efforts, finally crowned with success, in making the reaper and mower a perfect machine; encouraging him in time of trial, keeping him before the public, and finding him patrons for his products. The information gained in his contact with Hussey of the progress of

his invention, enabled him later to give material testimony for the inventor when his suits were tried against the infringers of his patents.

Mr. Sands was for many years secretary of the Maryland Institute for the promotion of Mechanic Arts, and later for two terms its president. During his career he was active in many other public enterprises, but never occupied, or was a candidate for any official station.

In politics Mr. Sands was before the war a whig, and a warm friend of Henry Clay. In 1861, although his associations and material interests were on the side of the south, he ranged himself with those who favored the preservation of the Union.

Whatever his political faith, Mr. Sands always made it a boast that in this journal there never appeared a line from which his opinions could be gathered. He took the position that the field of agriculture was neutral ground where all could meet, and though in many campaigns issuing partisan papers from the same office in which the FARMER was printed, no line ever appeared in it which indicated his views; but he was prompt enough to advance them on all proper occasions.

Mr. Sands' longevity could not have been predicted from his appearance or general health. He was not of robust build or strong constitution, and his long life was probably due in large measure to his simple habits and his abstemious living.

His will was a strong one; his industry was marked; to every task which he undertook, and to every cause which he espoused, he gave enthusiasm and the most earnest and hearty effort. He had little of the judicial temperament; by nature he was a partisan. Into whatever business, or work, or movement he went, to that he gave the most zealous and strenuous activity, but was a just man; above all, he was a good man.

Up almost to the very close of his career, his intellectual faculties were unclouded. Physically he had begun to decline in a marked degree only a year or two ago, but until after he had completed his ninety-second year he enjoyed life and took a vivid pleasure in the company of his books, in social intercourse with his friends, and in contemplating the works and processes of nature.

The estimation in which Mr. Sands was held in the community is mirrored in the extracts given below, from the editorials of the daily press. A marked testimonial to his high character and recognized usefulness as a citizen was the placing at half-mast of the national flag on the City Hall of Baltimore, by order of the Mayor, when his death was announced, this mark of respect being a very unusual one for a private citizen, long withdrawn from public view, and whose life touched at no point the circle of official activity.

[From The American.]

## THE DEATH OF SAMUEL SANDS.

By the death of Mr. Samuel Sands, which occurred yesterday morning, Maryland loses one of her most honored and useful citizens. His long life, covering a period far beyond that usually allotted to man, was full of good results, full of good ex-

amples for the young men of the present day. Though always a hard worker, and often taxing both brain and hand to the utmost, he was so careful of his health, so abstemious in his habits, that, though never of strong constitution, he prolonged his life till it nearly touched the century point, and retained his vigor and energy to the last. He was a connecting-link between the stirring days of the past and peaceful ones of the present—almost the last of those who lived in the eventful times which are so full of interest to all students of the early history of Baltimore. For eighty years he was connected in one capacity or another, with newspaper work, and such a record is, doubtless, without a parallel in the history of journalism in this country. For twenty-five of these years he was the agricultural editor of *The American*, and almost to the very last his work has appeared regularly in the weekly issue of this paper, giving to its readers the valuable results of his long experience and thorough acquaintance with all the best methods of agricultural work.

The most notable event of his younger life was his selection to put in type the patriotic poem of Francis Scott Key, written during the bombardment of Fort McHenry by the British. He was at that time employed in the composing room of the *American*, and there he did the work that gave to the world words that are still sung at every gathering of patriots all over the land. When he had finished the work of composition, stirred as he was by the patriotic words of the poem, he struck many copies off the press, and himself distributed them through the city, giving all a chance to read the lines of "The Star Spangled Banner." When we remember that at that time he was but a lad, we can appreciate how thoroughly he must have been imbued with the true spirit of patriotism, and how deep an impression that poem must have made on his young mind. He liked to see the stars of that banner increase and multiply, and he lived to see that song, the original of which was entrusted to his young hands, become a nation's anthem. To few men is such an honor given.

To Mr. Sands the farmers of Maryland and of the whole country owe a debt of gratitude which they can never repay, but which they should never forget. He was the founder of the first agricultural paper started in this country, and he did more than any other one man in America to introduce improved methods of agriculture, to teach farmers to put the land to the best use, and to obtain from it the largest and most profitable crops. In all this he was a pioneer, inventing and urging the use of improved farm machinery and implements, making the work of the agriculturist lighter, and the results more satisfactory. A careful reading of the sketch of his life, which we publish elsewhere, will give one some faint idea of what he accomplished in this direction, and how earnest he was in his efforts in behalf of all engaged in such pursuits.

His whole life was marked by constant and incessant industry. In everything he undertook he was the

same earnest, thoughtful worker, patient under discouragements, but persistent till crowned with success. Such a career as his is worth more than a passing notice—it should be made a study—full as it has been of true pictures of what can be accomplished by a sturdy and earnest devotion to a good purpose.

[from The Sun.]

MR. SAMUEL SANDS, whose death occurred yesterday, was an admirable specimen of the vigorous, hearty and earnest type of manhood that Maryland has had a habit of producing from her earliest history. He had a sound body and a sound mind, and whatever his hands or brain found to do he did with all his might. Strong in convictions, as he was in vitality, he took a deep interest in everything that concerned the State or community, and was an active participant in many undertakings and movements looking to agricultural development and local improvement. His death closes the career of a good and valuable citizen, whose long life has been one of honor and usefulness.

[From The News.]  
THE LATE MR. SANDS.

History was busy during the long period covered by the lifetime of Mr. Sands. It is not given to many to witness so much, and he himself from his association with "The Star Spangled Banner" was in a certain degree an historical figure. Time, to most minds, has given the events of the second war with Great Britain that misty and romantic coloring which the years in their passage always bestow; we of the present generation look at them down the long vista of the past and they have the indistinctness and poetic coloring of things that belongs to chronicle and tradition. To Mr. Sands, however, they were grim realities, for he himself had been an actor in them.

The gospel of rest is much preached lately, but the career of Mr. Sands illustrates the value of hard work. He was one of the most industrious of men. Until within the last few years he was an active worker, earnest persistent, and enthusiastic. He was no believer in the doctrine that idleness is good for any man, young or old. He rests now, successful and honored, and with the history of Baltimore, as well as with that of the country at large—or, at least, with one most important epoch of it—his name will be inseparably linked.

[From the Morning Herald.]

IN the death of Samuel Sands, Baltimore loses one its oldest and most public-spirited citizens. For eighty years he was connected with the newspaper and printing business in the city of his adoption, and his memory extended over almost the entire period of the nineteenth century.

#### BALTIMORE COUNTY GRANGE.

There will be a meeting of the Pomona Grange of Baltimore County on the Fair Grounds at Timonium, on Friday, August 7th, at 10 A. M. It is hoped there will be a general attendance of delegates from the subordinate granges. All fourth degree members welcome. Those attending will bring their lunch baskets.

#### THE STATE WEATHER SERVICE.

Maryland heretofore has been very slow to appreciate the possibilities for good of the Signal Service. Its advantages have long been known in the South, where "Cotton is king," and where a crop means money to pay debts and to spend, not only for its raisers and their hands, but for the factory men and their operatives in the North, the merchant at home, or in the great metropolis, and to those "who go down to the deep in ships."

To these it has brought certainty, money, confidence. And who will say that these are not essentials of every prosperous and happy community? With run-down lands brought into competition with the great and fertile West, Maryland farmers have been slow to see that a few degrees difference in climate makes or mars crops, not only in productiveness, but affects their kinds so that what is valuable in one is worthless in another, even the hardy corn proving no exception. Steam may annihilate, substantially, distance, but it cannot make a section either colder or warmer, however much cut up by railroads, or its waters plowed by steamboats.

If there is one State in the Union where the Signal Service is needed, it is Maryland. Look at the map. From the mountains to the ocean, substantially between two bays, with the whole of southwestern Maryland almost fanned by mountain breezes, what may not be expected in the matter of temperature? Yet, with all these wants, there is not a single station South of Anne Arundel on the Western Shore, nor of the extreme North end of Wicomico on the Eastern Shore. Delaware is worse off, with none South of Newark, with its great fruit county, Sussex, unprovided.

Yet these sections are celebrated, or have been, for their brainy men, and for their enterprising colonists in other regions.

The fact that they are so slow to take hold of such an aid as the Signal Service is inexplicable. Now that the new pursuits of trucking and fruit-raising are rising into prominence, and fast turning into leading pursuits, its necessities have become more evident, and we are to have one under the joint auspices of the "Signal Service," the "State Experiment Station" and the "Johns Hopkins University," three institutions well known and assuredly entitled to public confidence and support.

If, however, it ever becomes what it should be, it will need, and must have, State aid. A single meteorologist\* will have no time to discuss the intricate weather problems that must present themselves, due to our anomalous position and in the light of advanced research. The medals won and the honors bestowed in France, at the late Exposition, is conclusive evidence of the value of our Signal Service methods. Year by year it has improved, and now is reaping the fruits of unselfish devotion to science. From a few men at Washington to make "forecasts," it has spread to leading newspapers, and now the officer in charge of leading city stations supplements those of the main office with

\*Dr. Cronk, the one now in charge, seems well fitted by prior training, education and experience to do effective service in this way.

those of "his own drawn from local surroundings."

Here, with a sub-station in every county town of the State receiving reports direct from Washington, and these connected by railroads and the telegraph with the main towns of the county, or by daily mail, there is no reason why it cannot be made a success. Certainly, there is more money squandered every year in useless appropriations than would put the Maryland Weather Service in first-class order and make it an honor, as well as a great benefit, to the State.

Every farmer should press on his members of the Legislature the necessity for prompt aid to it, and be satisfied with nothing else.

#### HOME DEPARTMENT.

#### HOURS OF EASE.

##### THE BUSTLING HOUSEWIFE.

There are some house-keepers of the lively sort who are never contented till they have stirred every one else in the family into as lively a condition as their own. If they enter a room, something is sure to be wrong in it—people must move their chairs, the table must be turned about, the light must be raised or lowered, a window must be opened or closed; all is not right, but all must be made right, and at once.

These good bustlers are those, among others, who insist that every one shall rise in the morning at their own hour; the hour suits them, therefore it shall suit every one else; they like to rise at six, therefore every one else in the family must rise at six; breakfast must be eaten in company and the table cleared away—no breakfast for the delaying, or if a breakfast, there is so much reproach with it as to make its morsels bitter. It is not to be regarded that every one needs eight hours' sleep at least, and younger people more, and should have it; that some are poor sleepers, and should be suffered to make up in the morning what they have missed at night; that some went to bed late, delayed by work or pleasure; that the brain repairs its waste only in sleep, and should have its full chance to do so. It is of no consequence that some would rather have sleep than have breakfast; that the maid will not think of grumbling about the cup of tea and bit of toast and egg, or dry biscuit and butter, with which these late comers and poor sleepers will be satisfied; a good hot breakfast and everybody at the table is the rule, and hurry-scurry, half asleep and half awake, the rule must be obeyed. They have always heard that early rising, "while the dew is on the thorn," he is healthy; their mother and their grandmother rose early; and, anyway, their rule is to be enforced in the house where they reign supreme; or they will know the reason why.

Or perhaps it is not early rising that is the house-mother's especial burden, but late going to bed; she thinks her own hour again the proper hour for every one; she does not like any one to show a distaste or weariness of the society of the others by leaving it early; she wants the family to separate all at once; and she keeps them wearying and yawn-

ing round till she is ready to lay down her cards or books or her sewing and say good-night herself. Or else it is the other way, and every one is hustled off to bed, whether they would or no, because she always makes it a point to be the last one up in her house.

Or, just as possibly, her bone of contention is reading aloud in the family. It matters not in the least then that others have their own reading matter, or would prefer conversation, or would be satisfied with a little silence. It is her family; she is going to improve it, whether wished or not, and all other tastes and inclinations have to bow to hers. Just as possibly, too, it is sewing for the poor that is her hobby; and good-by then to fancy-work, to music, to painting, to amusement; the sewing must be done in concert, and she must be there to see; sewing for the poor is certainly right, and no idea of wrong crosses her mind while she insists upon it, and allows no one the liberty of choice in relation to time or quantity, and by no means the liberty of not doing it at all, if preferred.

Now this bustling housewife of ours has elements in her capable of making great happiness in a house, but the difficulty is that they are complicated with others of just a contrary capability, with self-will and self-conceit and domineering tyranny. It is happiness, too, which she desires to make when she stops to think of anything but the joy of having her own way. She has evidently great strength of body, for she gets her maids up in the middle of the night, and measures the powers of others by her own; she has some originality and force of mind; and what she needs is the consideration of other people's rights equally with her own. In reality, the youngest child in her household has rights which should be regarded—rights to health and happiness, at least so far as they are to be had; the oldest person has no less. Only that director of household affairs who regards these rights, who so conducts and orders things as to give everybody the largest liberty that does not impinge on the liberty of others, and is not incompatible with the moral welfare of any, secures a state of well-being in her family, moral and mental and spiritual, as well as physical, which is another word for happiness there. If she did not bethink herself, it would be her own happiness too that was secured, not only in seeing others happy, but in the fact that each individual who felt comfort and content to be due to her wise direction would in natural response make an exertion to see that her own path was clear from trouble, and that everything she wished for should be hers, till the mutual spirit of self-sacrifice brought things in that house into a paradisiacal condition.

#### GOOD MANNERS AT HOME.

That ancient saw, "Familiarity breeds contempt," is too often shown to possess a modicum of truth by the behavior toward one another of the members of the home circle. The familiarities of home ought to be so

sweet and gentle as to prove it, so far as its application there is concerned, to be a lying proverb. It is impossible to avoid familiarity in the household, as the very word itself implies, except by the cultivation of a cold indifference of demeanor which would leave nothing of home but the name.

But there is no reason in the world why the familiarity of home life should breed the "contempt" which shows itself in rudeness of behavior, in harsh, unfeeling words, in cross, snarling, snappish tones, such as would not be tolerated a moment among equals outside of the "charmed circle" of home. Yet how often such conduct is indulged in—thoughtlessly, perhaps, in many instances—by those who would be shocked or angry if accused of ill-manners. The husband, for example, will speak to his wife in a manner that is little short—if at all short—of insulting. If any other man spoke to her with so scant courtesy, he would very likely be knocked down by the justly indignant husband for his insolence—or deserve to be, if he were not. But why should a husband feel himself free to use language and manner toward his wife which he would not tolerate in another? And the wrongdoing is not all on the masculine side of the house. The feminine tongue sometimes wags with quite as little regard to the proprieties of polite intercourse in criticism of its owner's "lord." These discourtesies of intercourse between husband and wife are not always the result of diminished affection. They often occur where there is no real breach of sincere regard. They are simply the result of the close intimacy of home life, combined with an unwise, not to say a sinful, neglect of the common laws of good breeding. It would be impossible for husband and wife to maintain toward one another precisely the same bearing as they exhibit toward the outside world; nor would it be desirable if they could. But a delicate, tender, loving courtesy in word and deed they can and ought to show each other.

And so of the bearing of brothers and sisters toward one another. There is a deal of—brutality, shall we say?—certainly of vulgarity, in the behavior of brothers toward their sisters, and vice versa. For a boy or a young man to be courteous to his sister is an old-fashioned virtue; in many families it is quite out of date. Happily, it is not wholly extinct, for there are still many young men in the world who would scorn to treat even their sisters with rudeness. But the habit of discourtesy in the family is quite too prevalent, and we are sorry to say that here, too, the wrongdoing is not confined to the "sterner sex."

Happy is the home where the gentle familiarity which springs from affection, tempered by genuine courtesy, abounds, where "good manners" are as scrupulously observed as in intercourse with the outer world, where no jarring notes disturb the sweet serenity, the heavenly harmony, of the home circle.—*New York Examiner.*

## HINTS AND HELPS.

### THE PICNIC BASKET.

The picnic basket is such an important affair in the summer time that its contents are worthy of previous study and contemplation. Every one has an unctuous memory of Mr. Wardle's picnic hamper, described in "Pickwick Papers." "Now, the tongue—now the pigeon pie. Take care of that veal and ham—mind the lobsters—take the salad out of the cloth—give me the dressing." And there were suggestions of veal patties, capons and other eatables over which the fat boy liked to linger. It is not always convenient to carry about such a heavy laden hamper, but a smaller picnic basket may hold an equally delectable though simpler luncheon. Wrapped in white tissue paper each kind of food is separated from the other, and being neatly prepared looks inviting and appetizing. There may be sandwiches of all kinds, Saratoga potatoes, cold meats and condiments, cakes and fruit. Mrs. Christine Terhune Herrick gives other particulars. She says: Sandwiches may be supplemented by a piece of cold fowl, by, once in a while, a broiled bird, by a few pickled oysters, by deviled and plain hard-boiled eggs, by salads without number, by olives, cheese and pickles. And for desserts are there not the little dishes (which can be made in small pie plates), to say nothing of cake, cookies, gingersnaps, apples, oranges, mandarines, bananas, pears, grapes, and other fruits? For school children there are such simple dainties as bread or rolls spread with jam jelly marmalade or apple sauce. And are not crackers and cheese always at hand, and almost always popular!

### HOW TO BANISH RATS FROM BUILDINGS AND CELLARS.

There are people who don't know, and won't learn how to set traps properly, and who are afraid to use poisons. To such people the following methods are offered with the assurance that they will fill the bill and expel these troublesome animals in a manner that will give a very good degree of satisfaction.

The principal objection to this plan is that instead of destroying the beasts, you only drive them from your own to your neighbor's premises. Unless he promptly resorts to some method of slaughter, he will be very apt to have a fat time of it. If he should be much concerned about it, you might suggest the use of a little poison, and at the same time offer your services as chief manipulator. Of course it would be ready and willing to come down with the lucre in agreeable quantities: If he is a very good and useful neighbor, you might climb upon your benevolence and decline to accept compensation for doing him a nice turn. If, however, he insists that you "take it anyhow," always pocket it with a gentle protest. He will feel more satisfied, and will also regard you as a kind and considerate sort of a personage.

To banish rats take cayenne pepper, ground to a fine powder, and sprinkle plenty of it in their holes and runways. It is an elegant article for keeping rats out of a place after

you have once got them out. It operates by creating a violent disturbance in their breathing apparatus. Don't be afraid of putting too much in the holes. Apply it liberally, and remember it must be ground exceedingly fine and be very dry to produce the best results. You might look around a day or so after introducing it to see if there were any rats lying about with their heads sneezed off. Here is another. Mix equal parts with chloride of lime, and blue vitrol, powdered fine, and apply it the same as the pepper. It is rather rough on their wind organs. It is safe to say that a consumptive rat running over it a few times would soon kick his little bucket. A particularly acute article for banishing rats and mice is moist caustic potash. It will be found very useful in some places. Spread a thin layer of it around their holes. When they run over it, evil befalls them. It sticks to their feet, eats off the bark, and lays them on the shelf.

When a hole is in the ground, place a board with a hole in the center over the rat hole and spread the article on the board. In passing over the board, they will apply the corrective nicely. When their feet begin to tingle, they try to lick it off, and get a dreadfully sore mouth. It is a very severe medicine and plays smash with them generally.

Tar, used in the same manner, is also very good. It annoys rats sadly. Smear their holes with it, and they will soon settle their bills and go off mad. We find it advisable to apply it three or four times to insure their departure for good.—*Pickett.*

THE article on making bread, in the July 1st number of THE FARMER, should read "mould into loaves," not "two loaves." I generally make five or six loaves out of that amount of dough, and a small pan of rolls. By adding a little sugar and a small piece of butter, currants or ground cinnamon, or caraway seed, whichever you happen to have, the light dough can be made into nice buns for school lunches, and eaten with fresh fruit, or stewed fruit, or baked apples, will be found more wholesome than rich cake and preserves.

LOUISA FUNSTON.

I am glad to know that "S. D." recognized my name as one she had been familiar with in childhood. Hers I shall never forget, since it was the name of one who for long years was a faithful friend to me, and then God took her. L. F.

### OUR BOYS AND GIRLS.

#### SCHOOL-GIRL LIFE IN GERMANY.

The Countess von Krockow, in the *Century* for June, gives this picture of the life she led when a student at the Empress Augusta Seminary, Charlottenburg, Berlin. An American girl would not consider the round an exciting one:

"We rose in summer at six o'clock. Our beds stood in sections of large dormitories, and near them were iron washstands. A regulation existed as to how, and how much, we should be allowed to wash, and during the process a governess wandered constantly about to see that we followed it. We

drew on our uniform dresses in silence, and at the next signal of the bell hurried into the main corridor. Here stood the directress. Each kissed her hand with a good-morning greeting—according to the German code of manners the young must greet the old first—and then took our given places in a file for marching down into the dining-hall. Here we stood at the back of our chairs at table while a morning prayer was read by the directress. This done, she seated herself; the governesses resumed their places, and finally we pupils took ours. I committed the mistake, I remember, of thinking the first morning that the butter before me was meant for the rolls; so that I took some. The matter created a stir down along the whole table. Nor did the governess venture to set me right of her own accord. It was left instead to a private interview between the directress and me for opening my eyes to the fact that butter was only eaten by our superiors. We pupils had to soak our rolls in our coffee and eat them so, two cups of coffee and two wheaten rolls composing our breakfast. After breakfast we had free time to put our wardrobes in order for inspection, to study, or to talk, until eight o'clock. School lasted from eight in the morning until six o'clock in the evening. At ten in the forenoon occurred a recess of fifteen minutes for eating a sandwich (without meat); at twelve we walked for an hour in the open air; at one we dined. After dinner we adjourned with a governess into the dormitories for washing our teeth and hands. At four in the afternoon we drank coffee, or, if it were the birthday of some one of us, delectated ourselves with chocolate and cake. We ate supper at seven. After supper came sewing until bedtime. The directress' hand was then kissed again and a governess conducted us into the dormitories.

### "MERE WORDS"—BUT THEY TOLD A GREAT DEAL.

Persons who converse in public places must remember that they are handing out samples of their characters, and that they will be judged by the fragments of conversation that reach the ears of their neighbors, as in this instance reported for the *Golden Rule*:

We were walking along the street on a delightful spring evening, as twilight was settling down over the lawns and opening flowers, and as the street lamps were just beginning to twinkle. As we approached a corner, we saw standing near the crossing a group of three members of the gentler sex, who represented that charming age that causes us to hesitate as to whether we should say "girls" or "young ladies." They were well attired, not obtrusively arrayed. Their faces were bright and attractive, and a spectator would have said at once, "These belong to some of the best families." As we approached them, we saw that they were engaged in animated, though not boisterous, conversation. Just as we came up to them, this conversation was borne to our ears: "Do you catch on?" "You bet!"

That was all; but it was a good deal. The table of contents in a book

is very small in comparison to the crowded pages of reading matter, but it "speaks volumes," as we familiarly say. That question and answer made us wonder a little about those girls; we did not feel quite so much like calling them young ladies as when first seeing them. We have not the faintest idea as to what particular mental concept Number One desires her friend to "catch on" to. We do not know whether Number Two's allusion to a wager was intended as a challenge or a statement of fact. Of one thing we are quite certain, however: it is not pleasant to hear those who stand on the threshold of a lady's life using slang on street corners. It is suggestive of associations that are rough, rather than refining. It tells of a conformity to masculine traits that is not really enjoyed by even those who furnish the model. We do not expect our girls to talk precisely like professors of rhetoric, as in old-fashioned novels, but there is a happy medium between slang and a stilted style. We hope that group of sidewalk conversationalists will soon find that happy medium.

#### KEEP YOUR SELF-RESPECT.

The habit of self-respect has a distinct moral value. The *Youth's Companion* gives some suggestive thoughts along this line:

"The way to keep a man out of the mud is to black his boots," says Frederick Douglass.

This happy remark often occurs to us when we see boys going to school with shoes that have never once known the brush, with hair uncombed, faces not too clean, ears unfit for inspection, hands very black, and a cap that has evidently known hard service as a missile weapon. Such a boy is more likely to talk and act unbecomingly than one who is clean and tidy. Something in the tidy boy impels him to live up to his appearance. The other boy is apt to live up to his dirty boots.

Fixing upon a boy an odious and belittling nickname, which lowers his self esteem, has the same tendency. So does ridiculing him for any natural defect, and for the clumsiness which often results from such a defect. The mistakes of youth frequently results from shyness, and this is greatly aggravated by jeers of companions, and still more by the impatience of a teacher.

Many a man now honored and esteemed in the world dates his progress upward from the moment when he received from some honored lips a word of encouragement, or discovered by chance that he was not inferior to his comrades, despite appearance to the contrary.

We can hardly do a more injurious act than to make another think more meanly of himself than he ought to think. Humility is an excellent trait; but humility is a very different thing from the mortification and self-abasement that sometimes results from sneers or ridicule.

#### SKIM MILK WITH LINSEED FOR CALVES

The best substance to replace the cream abstracted from the milk in butter-making is linseed mucilage or jelly, says a British dairyman, made by boiling linseed and straining the

product before adding it to the skimmed milk. The cream removed from the milk is fat, of which the milk of the cow contains on an average 4.6 percent and chemists tell us that you have only to replace the abstracted fat by something cheaper than the cream to render it just as good feeding. The unfortunate part of it is that you cannot persuade the calf that skim-milk with added fat is as good as new milk, and such is the animal's obstinacy on this point that he refuses to believe it even if you read the latest analysis while he takes his bucket of okim and linseed. That useful animals can be cheaply reared on skimmed milk the fat of which has been replaced by the addition of linseed jelly is an undoubted fact; but that this or any other substitute has an equal feeding value, or will fatten a calf as well as pure milk, is all moonshine. Linseed contains 34 percent of fat, and being cheap and easily obtained, is undoubtedly the best substitute for the cream removed.

#### THE WISTARIA AS A POT PLANT.

A new subject for winter forcing has been brought out by German gardeners. This is the well-known and popular climbing plant, Chinese wistaria, *W. sinensis*. For conservatory decoration it cannot fail to be very effective, and it is easy to see that it could be used to great advantage on many occasions. A specimen was exhibited last year in Berlin which had seventy panicles of bloom—the whole head being a mass of flowers. To raise a plant select a strong young plant in the spring and pot it in well-enriched, fibry loam in a good-sized pot, and keep it growing steadily through the summer, allowing it to rest in autumn. By mid-winter cut back all the shoots but the strongest and start again into growth. Tie up erect the remaining shoot and guard it carefully that it be not broken. At the end of the second season the stem should be several feet in height. Before starting for the third year's growth cut the stem back to a convenient height, say four or five feet. The head, consisting of several branches, will now begin to form, and the fifth year it can be brought into bloom. The branches and young shoots can be allowed to hang naturally drooping all about the stem. If properly managed a plant will remain in good condition, blooming annually for many years. Forcing is quite easy, as only a moderate temperature is required. If kept in too much heat the buds drop.

#### KIND WORDS.

Editor of AMERICAN FARMER,  
Baltimore, Md.

Dear Sir: I send you two dollars which is to pay for your valuable farm paper. I go to Georgia in a few days to live and I shall not therefore need the paper longer.

May you continue to bless with such a paper the great interests of the farmers of America.

I am truly,

W. O. CHANDLER.

Caroline Co., Va.

#### BRIEF NEWS SUMMARY.

**GENERAL.**—In spite of the reduction of the tobacco tax the internal revenue receipts for the last fiscal year are several million dollars in excess of the returns for the previous year.—The increase is attributed to the large consumption of beer in the country.—The census office bulletin of statistics of tobacco in Virginia gives the total number of planters at 24,034, total area, 110,579 acres, product 48,523,625 pounds and sales \$5,323,469.—A statue of Stonewall Jackson was unveiled with much ceremony at Lexington, Va.—A marine dress parade took place in New York harbor.—An excursion train near Dayton, O., was run into by a freight train and several persons were killed.—Governor Hill granted a respite to murderer Wayman.—News was received of the capture of several sailing ships in Behring sea by United States cruisers.—A heavy earthquake shock felt in Evansville, Ind.—The Steelton (Pa.) Steel Works have banked their furnaces, and nearly 4,000 men are idle.—The immense Campbell & Elliot woolen-mill, Philadelphia, was burned July 24, with loss \$700,000, and 450 persons thrown out of employment.—A decision by Judge Coxe in the United States Circuit Court makes valid the Brush patents on storage batteries.—These are owned by the Edison company.

**GENERAL.**—Collector Erhardt, of New York resigned, the President appointed J. Sloan Fassett to the place.—Senator Quay and W. W. Dudley resigned their positions as chairman and treasurer respectively of the Republican National Executive Committee and the resignations were accepted.—James S. Clarkson was chosen as Quay's successor.—Ex-Speaker Reed, of the House of Representatives, returned from Europe.

**FOREIGN.**—The famous Coldstream Guards, one of the oldest corps in the British army except one, mutinied because they were not given a day off after the extra duty during the visit of the Emperor of Germany.—An excellent impression has been made upon the Pope by the views of President Harrison on the nationalization of Catholic immigrants in the United States, as outlined by the President in his talk with Cardinal Gibbons at Cape May.—The Pope declares he never favored the plan of Herr Caheusley.—At the next session of Parliament the British government will introduce a bill giving local government to Ireland.—Intense distress prevails among the poor in Buenos Ayres.—Flour is selling at \$28 a barrel.—News is received of the murder of a missionary in China.—Great finds of gold reported from Nicaragua.—Ex-Emperor Dom Pedro, who was ill, is recovering.—The French squadron is cordially welcomed at Cronstadt.—The English liberals gain a significant victory.—A tablet unveiled in St. Peter's church, Leyden, in memory of Rev. John Robinson, of the *Mayflower*.—Two excursion trains collided near Paris, killing 43 and wounding 104 persons.

**MARYLAND.**—The colored troops of the Maryland National Guard encamped at Camp Parole, near Annapolis.—George T. Lyon died at Havre de Grace, aged seventy-four years.—Rev. Henry Daunenbauer, of Annapolis, died Sunday at Saratoga, N. Y.—Alexander Ross died in Charles county, aged seventy-one years.—Dr. George W. Berry died in Prince's county, aged fifty-seven years.—James C. Orrick, a well-known business man, died in Cumberland, Md., aged eighty-four years.—Rev. Albert E. Wallis, a retired minister of the Methodist Episcopal Church, died in Frederick.—The State Democratic Convention met in Baltimore and nominated Frank Brown, of Carroll county, for Governor; Marion de Kolb Smith, of Kent, for comptroller; John Prentiss Poe, of Baltimore, for attorney-general, and J. Frank Ford, of St. Mary's county, for clerk of the Court of Appeals.—The corner-stone of the new Odd-Fellows Hall was laid with simple ceremonies.—T. J. Magruder, a prominent citizen and manufacturer of Baltimore, died.

#### BALTIMORE MARKETS—July 31.

##### BREADSTUFFS.

**Flour.**—Active and steady. We quote Western Super 3.50a3.75; Western Extra 3.75a4.25; Western Family 4.50a4.85; Baltimore High Grade Family 5.00; City Mills Super 3.00a3.75; Rio Extra 3.00a3.25; Bye Flour, medium to choice 4.25a4.75; Cornmeal per 100 lbs. 1.30a1.60. **Wheat.**—Southern steady, rains interfering with receipts, and sales were made at 98a1.00 for dry and prime Longberry, 98a1.00 for Fultz. Western strong, with extremely heavy shipments to Europe. Quotations being 97a98

97½ for No. 2 red spot; 97½ for September, 98½ for October.

**Corn.**—Southern firm and active. White selling at 75 cts. and yellow at 73 cts.; Western dull at 69½ cts. for mixed spot, 66 cts. for September.

**Oats.**—Steady. New Maryland sold at 43 cts.; Ungraded Southern and Pennsylvania 45a46 cts.; do. Western White, 47a48 cts.; do. do. mixed 45a46 cts.; No. 2 White 48 cts.; do. mixed 46 cts.

**Rye.**—Firm. Small lots of new selling at 75 cts.; good to prime, old, 74a78 cts.; common to fair 72a73 cts.

**Milk Feed.**—Demand being light with liberal stocks. Western bran, light, 12a13 pounds, 17a18; medium 12a16 pounds, 16a17; heavy, over 16 pounds, 15a16, and Middlings 16.50a17.50, with spring bran ranging \$1 per ton under these figures, all on track; City Mills Middlings \$18 per ton delivered.

**Hay.**—Steady, but declining. Quotations: Choice old \$14.50, good to prime \$13.50, mixed fair to good \$12.50, common and inferior 10a\$11, clover, nominal, 9a10; off grades 8.50a9.50 on track. At Scates.—Hay—Timothy 15a18, new Hay 10a12; Clover Hay 10a11 per ton. Straw—Wheat 8a9, Rye 12a14, Old \$9 per ton. Ear Corn 3.50a4.00 per bbl.

**Straw.**—The market for Straw was very quiet. The price of old was lowered to \$15 to meet new at \$14, but there was scarcely any demand for either kind at the moment. Old Rye in car-lots at \$15 for large bales in sheaves, new \$11.00a\$12.50 for blocks, Wheat blocks, 8a9, Old blocks 10.50a11.

**Provisions.**—Strong, with quotations: Sugar-pickled Shoulders 6½ cents; smoked sugar-cured Shoulders 8 cents; sugar-cured Breasts 10 cents; canvased and uncansvased Hams, small averages 12½ cents, large averages 12 cents per lb. Mess Pork, old, \$12.00, and do. new, \$13.50 per bbl. Lard, best refined, pure, 8 cents per lb.

**Butter.**—Firm. Quotations: Fancy creamery jobbing at 19 cents; good to choice creamery 16a17 cents per lb. Imitation creamery 16a17 cents per lb. Fancy ladle-packed 14a15 cents, prime to choice do. 13a14 cents per lb. Store-packed, 11a12 cents, and creamery prints 10a11 cents per lb.

**Cheese.**—Steady. Fancy full cream, New York State, 38 to 60 lbs. 9½a9¾ cents; choice full cream 9½a9¾ cents; New York flats, 30 to 35 lbs. size, 9½a9¾ cents per lb.; 20 lbs. size, 10a10½ cents per lb.

**Eggs.**—Firm at 14a15 cents per dozen.

**Poultry.**—Fowls went active. Large Spring Chickens 16a17 cents per lb., small do. to medium, 15 cents per lb., old Hens 12½a13 cts. per lb., and old Roosters 25a30 cents apiece.

**Tobacco.**—Active, with prices advancing. We quote Maryland—Common and frosted, per 100 lbs., 1.00a\$1.50; sound common, 2a3; good common, 4a5; middling 6a8; good to fine red 9a11; fancy 12a13; upper country 3a3½; ground leaves 1a9.

**Wool.**—Dull. We quote: Unwashed extra choice and light 22a24 cents; average lots 21a23; do. merino 16a18; tub-washed fair to choice 30a32; pulled 25a28.

##### LIVE STOCK.

**Beef Cattle.**—Strong. We quote this week as follows: Best Beeves 5.12½a5.25 those generally rated first quality 4.25a4.88½, medium or good fair quality 3.25a4.50, and ordinary thin Steers, Oxen and Cows 1.60a\$3.00 per 100 lbs.

**Sheep and Lambs.**—Slow. We quote sheep at 3½a4½ cents per lb. gross, and Lambs 4½a5½ cents per lb. gross.

**Swine.**—In fair demand. Quotations range from 7 to 8 cents, rough hogs and grassers selling at 7; nearby hogs at about 7½, and the bulk of the offerings (good Western hogs) 8, and a shade under for a few.

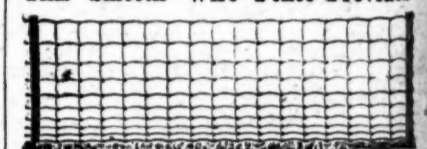
## NOTICE.

The publication of THE AMERICAN FARMER will be continued, as heretofore, under the style of SAMUEL SANDS & SON, by the undersigned.

WM. B. SANDS.

Baltimore, July 28, 1891.

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PROTECTION for Crops, SALVATION for Stock, FREE TRADE for Wind and Snow, PROHIBITION for Trespassers, ALLIANCE of all these For Mutual Benefit and Advantage of the Depressed Agriculturist. Address THE PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



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**Grows Fruits, Flowers, Ornamental Trees,**

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I have for Spring of 1891, an especially fine lot of FRUIT TREES especially APPLES—Southern Winter Apples for Southern Planters; GRAPE VINES, Small Fruits, also a large collection of the best EVERGREEN TREES—Dwarf Arbor-Vitæ and Irish Juniper, Plants for Hedges & Screens. SHADE TREES for Street or Lawn. Roses and Greenhouse Plants, etc.

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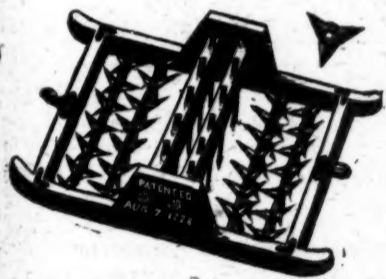
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Apple, Pear, Peach, Cherry, Plum, Quince, Strawberry, Raspberry, Blackberry, Currants, Grapes, Gooseberries, &c. Send for catalogue J. S. COLE, Moorestown, N. J.

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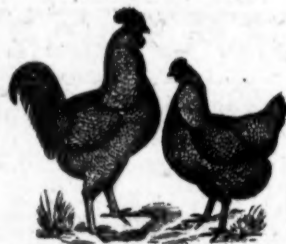
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